



# Practice Masters Level A

## 8.3 Multiplying and Dividing Rational Expressions

Simplify each expression.

1.  $\frac{x^2 + 6x + 8}{x^2 + x - 12}$

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2.  $\frac{x^2 + 11x + 30}{x^2 + 5x - 6}$

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3.  $\frac{x^2 - x - 12}{x^2 + 5x + 6}$

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4.  $\frac{x^2 - x - 42}{x^2 - 49}$

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5.  $\frac{x^{12}}{5} \cdot \frac{15}{x^4} \cdot \frac{x^3}{9}$

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6.  $\frac{42}{x} \cdot \frac{x^6}{14} \cdot \frac{x^2}{12}$

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7.  $\frac{6x^2 + 18x - 108}{x^2 + 4x - 12} \cdot \frac{x + 4}{10x - 30}$

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8.  $\frac{x + 5}{2x - 8} \cdot \frac{5x^2 - 5x - 30}{10x^2 + 70x + 100}$

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9.  $\frac{x^2 + 4x - 5}{18} \div \frac{x^2 - x}{6}$

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10.  $\frac{x^4}{x^2 + 15x + 54} \div \frac{x^2}{x + 9}$

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11.  $\frac{x^4 + 2x^3}{x^2 + 3x + 2} \cdot \frac{x^2 - 1}{5x - 5}$

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12.  $\frac{6x^2 - 24x + 24}{14x - 28} \div \frac{3x - 6}{x + 1}$

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13.  $\frac{\frac{x^2 + x - 6}{x + 5}}{\frac{3x^2 - 12}{3x + 15}}$

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14.  $\frac{\frac{3x + 6}{x^2 + 3x - 4}}{\frac{6x + 12}{x^2 - x - 20}}$

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15.  $\frac{\frac{5x - 35}{3x + 9}}{\frac{5x^2 + 15x}{x^2 + 6x + 9}}$

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16.  $\frac{\frac{x^2 + 5x + 6}{x^2 + 2x - 3}}{\frac{10x + 40}{10}}$

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